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Depilatory Agents intoxication and factors contributing to its mortality: A 9-year review

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Abstract

Poisoning with depilatory agents is a rather uncommon entity in western countries. In this study, we describe poisoning with a corrosive arsenic-based depilatory agent (CABD) and factors related to its mortality in a poisoning center in Tehran. In a retrospective study, the medical records of all patients with CABD intoxication who attended the emergency ward of Loghman-Hakim hospital, the only poisoning center in Tehran, over a 9-year period between 2000 and 2009 were reviewed. The majority of patients were men (78.7%, $n = 122$ vs. women: 21.3%, $n = 33$). The mean age was 35.55 $\pm$ 16.68 years. Mean time of arrival to hospital was 3.63 hours (SD = 4.07). The mortality rate was 5.8% and increased significantly with higher amounts of ingestion and delay in arrival to hospital. CABD poisoning may be lethal if not treated promptly and correctly. Restriction or, if not practical, reduction of harmful components of this substance should be considered.

Keywords

poisoning, suicide, depilation

Introduction

In addition to the wide range of prescription and over-the-counter drugs that can lead to either accidental poisoning or intentional suicide, bizarre substances can cause poisoning in various cultures. One of the agents that is less known and studied in western cultures is a corrosive arsenic-based depilatory agent (CABD) that is known as 'Vajebi' in Iran. It has been traditionally used in Iran and some other countries like India for hair removal. The low cost and availability of CABD make it an ideal and lethal mean for suicide in correctional facilities where observation of strict controls restrict inmates access to more conventional methods of suicide.

CABD is produced in small workshops and under conditions that are far from standard. Nevertheless, it has been shown to consist of approximately 65% calcium bicarbonate ($Ca(HCO_3)_2$), 25% arsenic sulfide (As_2S_3), and 10% clay and moisture.[1] When dissolved in water, As_2S_3 produces arsenous and arsenic acid. Calcium bicarbonate, arsenous acid, and arsenic acid are acidic components that cause severe damage to the digestive tract following ingestion,[2-4] while the arsenic compounds cause the signs and symptoms of arsenic poisoning. A unique feature of CABD poisoning is that it can cause a bezoar in the gastric fundus, which needs to be removed surgically.[5]

Treatment of arsenic poisoning includes gastrointestinal decontamination, chelation therapy, diuresis, fluid replacement, and supportive cares. Dimercaprol and dimercaptosuccinic acid are chelating agents that

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